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Contribution to the Pyrenomycetes of Maine.—I.

By F. L. Harvey.

The following list of Pyrenomycetes is based upon collections made by the Rev. Joseph Blake, and in the Blake Herbarium at the Maine State College, or in lists of Maine Cryptogams turned over to the writer by Mr. Blake before his death. To the above are added all the species, so far as known, that have been recorded from Maine in the literature upon fungi, together with such forms as have been detected by the writer since 1886. The list is of course incomplete, as each year several species have been added. It includes a few species not noted by Ellis from the United States, also several species not before reported from Maine.

Additional references to Maine species by collectors will be gratefully received.

We are under great obligations to Mr. J. B. Ellis and Mr. C. H. Peck for the examination of specimens.

Family ERYSIPHEAE.

1. *Sphaerotheca Humuli* (DC.). On *Spiraea salicifolia* L. and *Humulus Lupulus*, Orono (Harvey).

2. *S. Mors-uvae* (Schw.). On species of *Ribes*, Orono (Harvey).

3. *Erysiphe communis* (Wallr.). Herb. Port. Soc. Nat. Hist. (Fuller), Cumberland (Blake). Hosts not stated. On *Pisum sativum*, Orono (Harvey).

4. *E. Cichoracearum* DC. On dandelion leaves (W. C. Stevenson), as *E. Montagnei* Lev.; Harrison (Blake), as *E. phlogis* Schw. On various species of Compositae, Orono (Harvey).

5. *E. graminis* DC. Common on lawn grasses in shaded places, Orono (Harvey).

6. *Uncinula Necator* (Schw.). Very abundant on Delaware grapes, Orono (Harvey).

7. *U. circinata* C. & P. On *Acer dasycarpum*, Orono (Harvey).

8. *N. Salicis* (DC.). On *Salix* species. Very common, Orono (Harvey).

9. *Phyllactinia suffulta* (Reb.). On *Hamamelis Virginiana*, *Celastrus scandens* and *Alnus serrulata*. Very abundant, Orono (Harvey).

10. *Podosphaera Oxyacanthae* (DC.). On cultivated plums, Orono (Harvey).

11. *Microsphaera Vaccinii* (Schw.). Jackman (Harvey). On *V. corymbosum* var. *atrococcum* Gray.

12. *M. Alni* (DC.). On honeysuckle, Portland (C. C. Balles). C. & P. Ery. U. S. 20, as *M. Dubyi* Lev., which is regarded by Burrill as *M. Alni.* On *Alnus serrulata,* very common, Orono (Harvey).

13. *M. quercina* (Schw.). On *Quercus nigra,* Orono (Harvey).

Family II. PERISPORIEAE.

14. *Dimerosporium Collinsii* (Schw.). Wells (Blake). No host given, but probably on *Amelanchier.*

15. *Asterina Celastri* E. & K. On leaves of *Celastrus scandens,* Orono (Harvey).

16. *A. Gaultheriae* Curtis. On living leaves of *G. procumbens.* Common, Orono (Harvey).

17. *Microthyrium microscopicum* Desm. Cumberland (Blake).

Capnodium Pini B. & C. Berk. and Curt. North Am. Fungi n. 982, Me. (Blake).

18. *Eurotium herbariorum* (Wigg.). Common on neglected herbarium specimens, Orono (Harvey).

19. *Claviceps purpurea* (Fr). Common on various species of grasses, cultivated and wild about Orono (Harvey).

20. *Cordyceps militaris* (Linn.). Conidial stage in Blake Herb. as *Isaria farinosa,* also in the ascigerous form as *Torrubia militaris* Fr. Cumberland (Blake).

21. *Cordyceps ophioglossoides* (Ehr.). Cumberland (Blake).

22. *Hypomyces Lactifluorum* (Schw.). Portland (Fuller). Sprague's N. Eng. Myc. from S. Paris, Wells (Blake). On *Lactarius* in beech and birch woods. Orono, August (Harvey).

23. *H. violaceus* Tul. Parasitic upon *Fuligo septica* L. A single infested specimen found on moss at Greenfield, Me., Oct., 1895. (Harvey).

24. *Hypocrea rufa* (Pers.) Blake Herb. as *Trichoderma viride* Pers. Cumberland (Blake), Orono, on decaying wood (Harvey).

25. *H. Schweinitzii* (Fr.). Blake Herb. as *Sphaeria contorta* Schw. Cumberland (Blake.)

26. *H. Richardsoni* Berk. & Mont. Cumberland (Blake) Jour. Mycol. June, '86, p. 62, from Maine, but no authority. On willow and poplar, Orono (Harvey).

According to the recent investigations of Herman Schrenk (BULLETIN, **21**: 385) this form is a *Corticium* and should be *C. pezizoideum* (Schw.).

27. *Hypocrella Hypoxylon* Pk. Stems of living grasses, Me. (Scribner). Journ. Mycol. June, '86, p. 67.

28. *Epichloe typhina* (Pers.). On grass, July, Bradley, Me. (Harvey).

29. *Nectria cinnabarina* (Tode). Portland (Fuller). Cumberland (Blake). Orono (Harvey). Common on honey locust, rock maple, staghorn sumach and apple in the conidial stage (*Tubercularia vulgaris* Tode). On red raspberry, white pine, poplar and basswood we find a form (*Tubercularia nigricans* Fr.), which, if we are correct, should also be referred to *N. cinnabarina* (Tode.). In Blake's Herb. is *T. granulata* P. Cumberland (Blake). We find this mentioned only by Cooke (Vol. II., p. 557–8), where he seems to refer it to the above.

30. *N. Sambuci* E. & E. On *Sambucus Canadensis*. Oldtown (Harvey).

31. *N. coccinea* (Pers.). Cumberland (Blake). On dead branches of *Acer saccharinum*. Orono (Harvey).

32. *N. vulpina* Cke. Pushaw Lake, Oldtown, Aug., 1895 (Harvey).

33. *N. dispersa* C. & E. Maine (Blake), on pine bark. Jour. Mycol. Dec., '86, p. 133, as *Dialonectria dispersa* C. & E.

34. *N. episphaeria* (Tode). On species of *Sphaeria* upon *Alnus serrulata*. Orono (Harvey).

35. *Chilonectria Coryli* (Fckl.). Hard maple. Orono, Dec. (Harvey).

36. *Gibberella pulicaris* (Fr.). Blake Herb. as *Sphaeria pulicaris*. Cumberland (Blake).

Family TRICHOSPHAERIEAE.

37. *Venturia compacta* Pk. Orono (Harvey).

38. *Lasiosphaeria hirsuta* (Fr.). Oldtown, Aug., 1895 (Harvey).

39. *L. mutabilis* (Pers.). In Blake Herb. as *Sphaeria mutabilis* Pers. Harrison (Blake).

Family MELANOMMEAE.

40. *Rosellinia Desmazierii* (B. & Br.). Cumberland (Blake). On birch in Maine (Grev. 4: 106). Probably the Maine specimens were from Blake (?) Blake Herb. as *Sphaeria Desmazierii.*

41. *R. Clavariae* (Tul.). On *Clavaria spinulosa* Pers. Orono, Aug. (Harvey).

42. *Bombardia fasciculata* Fr. In Blake Herb. as *Sphaeria bombarda* Batsch, from Cumberland (Blake).

43. *Bertia moriformis* (Tode.). Rotten firwood, Orono, November; Oldtown, Sept., 1895 (Harvey).

44. *Melanomma pulvis-pyrius* (Pers.). Blake Herb. as *Sphaeria myriocarpa* Fr. Cumberland (Blake).

Family CERATOSTOMEAE.

45. *Ceratostoma spina* (Schw.). Blake Herb. as *Sphaeria spina* Schw. Cumberland (Blake).

Family AMPHISPHAERIEAE.

46. *Amphisphaeria Oronoensis* E. & E. *Sphaeria Oronoensis* E. & E. Journ. Mycol. 3: 117. On spruce timbers in a cellar in Orono, 1887 (Harvey). Also found on spruce in the woods.

47. *A. applanata* (Fr.). Blake Herb. as *Sphaeria applanata* Fr. Wells (Blake).

Family LOPHIOSTOMEAE.

48. *Lophidium compressum* (Pers.). Blake Herb. as *Sphaeria angustata* Pers. Cumberland (Blake).

Family CUCURBITARIEAE.

49. *Cucurbitaria elongata* (Fr.). Blake Herb. as *Sphaeria elongata* Fr. Cumberland (Blake).

50. *C. Berberidis* (Pers.). Blake Herb. as *Cucurbitaria Berberidis* Fr. Cumberland (Blake).

51. *Fraechiaea callista* (B. & C.). Cumberland (Blake). Blake Herb. as *Sphaeria callista* B. & C.

52. *Otthia morbosa* (Schw.)= *Plowrightia morbosa* (Schw.) Sacc. Common on *Prunus Pennsylvanica* and domestic plums. Orono (Harvey).

53. *Parodiella grammodes* (Kze.). Herb. Port. Socy. Nat. Hist. (Fuller) as *Dothidia perisporioides* B. & C.

Family SPHAERELLOIDEAE.

54. *Sphaerella maculiformis* (Pers.). Blake Herb. as *Sphaerella maculiformis* Pers. Cumberland (Blake).

55. *S. Smilacicola* (Schw.). Sprague's New. Eng. Mycol. (Proc. B. S. N. H. **6**: 319 (Morse) as *Depazea Smilacicola* Schw.

Family GNOMONIEAE.

56. *Gnomonia Corylii* (Batsch.). Port. Socy. Nat. Hist. Coll. as *Gnomoniella Corylii.* Blake Herb. as *Sphaeria Corylii* Batsch. Cumberland (Blake). On leaves of *Corylus Americana.* Orono (Harvey).

57. *G. fimbriata* (Pers.). Harrison (Blake).

58. *G. errabunda* (R. et D.). Spragues N. Eng. Mycol. Portland (E. S. Morse) as *Sphaeria errabunda* Desm.

Family PLEOSPOREAE.

59. *Leptosphaeria fuscella* (B. & Br.). Blake Herb., Cumberland (Blake).

60. *L. Doliolum* (Pers.). Blake Herb., Cumberland (Blake).

61. *L. comatella* (C. and C.). Blake Herb., Cumberland (Blake).

62. *Ophiobolus porphyrogonus* (Tode.). Blake Herb. as *Sphaeria rubella* Pers. Cumberland (Blake).

Family MASSARIEAE.

63. *Marsaria inquinans* (Tode.). On dead maple limbs. Orono, Dec. (Harvey).

64. *Massariella scoriadea* (Fr.). Blake Herb. as *Sphaeria scoridea* Fr. Cumberland (Blake).

65. *M. pupula* (Fr.). Conidial stage on sugar maple, *Steganosporium pyriforme* Hoff. Orono, Nov. (Harvey).

Family VALSEAE.

66. *Diaporthe leiphaemia* (Fr.). Blake Herb. as *Valsa leiphaemia* Fr. Cumberland, Me. (Blake).

67. *D. Salicella* (Fr.). Proc. Bost. Soc. Nat. Hist. **6**: 319 (Blake). Blake Herb. as *Sphaeria Salicella* Fr. Cumberland (Blake). This species, in the conidial form, was sent by Blake to Sprague, Berkeley and Curtis, and appears in their lists as *Discella carbonacea* B. & Br. On Willow, Orono (Harvey).

68. *D. syngenesia* (Fr.). Blake Herb. as *Sphaeria Frangulae* Pers. Cumberland (Blake).

69. *Valsa Americana* B. & C. Blake Herb. Wells and Cumberland (Blake).

70. *V. modesta* (Schw.). Blake Herb. Cumberland (Blake).

71. *V. deformis* (Fr.). On birch. The ferruginous stroma appearing as waxy spots on the bark. Orono, Dec. (Harvey).

72. *V. rufescens* (Schw.). Blake Herb. as *Sphaeria aculeans* Schw.=*Sphaeria rufescens* Schw. Cumberland (Blake).

73. *V. truncata* C. & P. Wells (Blake.)

74. *V. rhizina* (Schw). Berk. & Curt. N. A. F. (Blake).

75. *V. ambiens* (Pers). Wells (Blake). On willow, Orono (Harvey).

76. *V. salicina* (Pers.). Spermogonia in Blake Coll. as *Cytispora fugax* Fr. Cumberland (Blake).

77. *V. quaternata* (Pers.). Blake Coll. as *Sphaeria quaternata* Fr. Cumberland (Blake). The spermogonial stage (*Libertella faginea*) is very common on birch bark. Orono (Harvey).

78. *V. nivea* (Hoff.). Dead poplar. Orono, Dec. (Harvey).

79. *V. colliculus* (Wormsk.). In Blake Herb. as *Sphaeria colliculus*, which we have not been able to trace, but presume it is the above. Cumberland (Blake).

80. *Eutypella cerviculata* (Fr.). Orono (Harvey).

81. *E. similis* (Karst.). On *Alnus serrulata*, Orono, Sept. (Harvey).

82. *Eutypa spinosa* (Pers.). Blake Herb. as *Sphaeria spinosa* Pers. Cumberland (Blake).

83. *Calosphaeria ciliatula* (Fr.). On dead birch limbs. Orono (Harvey).

Family MELANCONIDEAE.

84. *Melanconis stilbostoma* (Fr.). Blake Herb. as *Sphaeria pulchella* and the spermogonia as *Nemaspora crocea* Fr. Cumberland (Blake). Sprague's New Eng. Mycol. Portland (E. S. Morse). On birch, Orono (Harvey).

85. *M. tiliacea* (Ell.). On *Tilia Americana*, Orono, Dec. (Harvey).

86. *Pseudovalsa profusa* (Fr.). Blake Coll. as *Sphaeria Sartwellii*, Cumberland (Blake).

87. *P. lanciformis* (Fr.). Blake Herb. as *Sphaeria lanciformis* Fr. Cumberland (Blake).

Family MELOGRAMMEAE.

88. *Valsaria exasperans* (Gerard). Harrison (Blake). maple, Orono, Dec. (Harvey).

Family DIATRYPEAE.

89. *Diatrypa stigma* (Hoff.). Orono (Harvey).

90. *D. platystoma* (Schw.). Hard maple. Orono (Harvey).

91. *D. disciformis* (Hoff.). On beech. Wells (Blake).

92. *D. albopruinosa* (Schw.). Blake Herb. as *Sphaeria Diesieni* Mont. Cumberland (Blake).

93. *Anthostoma microsporum* Karst. On *Alnus.* Wells (Blake). Orono (Harvey). Blake Herb. as *Diatrype microspora* Ell.

94. *Diatrypella quercina* (Pers.). Harrison (Blake). Blake Coll. as *Sphaeria quercina* Pers.

95. *D. verrucaeformis* (Ehr.). Blake Herb. as *Sphaeria verrucaeformis.* Cumberland (Blake).

96. *D. betulina* Pk. On dead birch twigs, Orono (Harvey).

97. *Phyllachora Trifolii* (Pers.). On clover leaves, Blake Herb. as *Polythrincium Trifolii* Kze., which according to Cooke is probably the conidial form of the above. Harrison (Blake). Also in Blake Herb. as *Sphaeria Trifolii* Pers. Cumberland (Blake).

98. *P. Pteridis* (Reb.). On leaves of *Pteris aquilina,* Mt. Desert (Redfield). Common about Orono (Harvey).

99. *Dothidella betulina* (Fr.). Blake Herb. as *Dothidea betulina* Fr. Cumberland (Blake).

100. *D. Ulmi* Schw. Harrison (Blake).

101. *Dothidea Ribesia* (Pers.). Berk. and Curt. N. A. Fungi from Me. (Blake). Blake Herb. Cumberland (Blake).

Family XYLARIEAE.

102. *Hypoxylon coccineum* Bull. Blake Herb. as *Sphaeria fragiformis* Pers. Cumberland (Blake). On beech, Orono. Jackman (Harvey).

103. *H. enteromelon* (Schw.). Sprague's N. Eng. Myc. Portland (Morse). Blake Herb. as *Sphaeria enteromela* Schw.

104. *H. fuscum* (Pers.). Blake Herb. as *Sphaeria fusca* Pers., and *S. confluens* Willd. On dead alder, beech, etc., Orono. Jackman (Harvey).

105. *H. multiforme* Fr. Blake Herb. Cumberland (Blake). Common, Orono (Harvey).

106. *H. multiforme* var. *adultum* Fr. On yellow birch, Orono (Harvey). This form was named by Peck from specimens from Orono, and is not mentioned by Ellis.

107. *H. glomiforme* B. & C. Cumberland (Blake).

108. *H. cohaerens* (Pers.). Blake Herb. as *Sphaeria cohaerens* Pers. Cumberland (Blake). On beech, Orono (Harvey).

109. *H. Morsei* B. & C. Ber. & Curt. N. A. F. from Maine (Blake & Morse). Blake Coll. as *H. Blakei* B. & C.; Cumberland (Blake). On dead alder. Common, Orono (Harvey).

110. *H. perforatum* (Schw.). Dead wood, Orono (Harvey).

111. *H. rubiginosum* (Pers.). Orono (Harvey). Our form is regarded as varietal by Peck. *H. fuscopurpureum* Schw. Orono, Me., Oct., 1895 (Harvey).

112. *Daldinia concentrica* (Bolt.). Sprague's Cont. N. Eng. Myc. Portland (Fuller). Common on *Salix*, Orono (Harvey).

113. *D. vernicosa* (Schw.). Orono (Harvey).

114. *Xylaria polymorpha* (Pers.) Portland Soc. Nat. Hist. Coll. no. 54. Portland (Fuller); Cumberland (Blake).

115. *X. corniformis* Fr. Rotten wood and ground, Orono (Harvey).

116. *Angelina rufescens* (Schw.). Orono (Harvey).

117. *Hysterium pulicare* Pers. Cumberland (Blake).

118. *Hysterographium Fraxini* (Pers.). Blake Herb. as *Hysterium Fraxini* Pers. Cumberland (Blake).

Family HYPODERMIEAE.

119. *Lophodermium Juniperinum* (Fries). Port. Soc. N. H. Coll., No. 107, Portland (Fuller). In above Coll. as *Hysterium Juniperinum* Fr.

120. *L. Arundinaceum culmigenum* (Fr.). Sprague's New Eng. Myc. Wells (Blake). Common on grasses and sedges, Orono (Harvey).

121. *L. Pinastri* (Schrad.). Blake Herb. as *Hysterium Pinastri*

Schrad. Cumberland (Blake). Port. Soc. Nat. Hist. Coll., No. 100. Portland (Fuller).

Family DICHAENACEAE.

122. *Dichaena Faginae* (Pers.). On living beech. Cumberland (Blake).

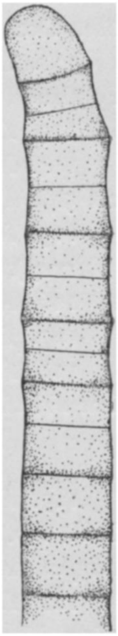
A new Oscillatoria from California.

OSCILLATORIA TRAPEZOIDEA n. sp.

Trichomes aeruginous, forming a thin loosely-woven stratum of a dull blue-green color, firm, straight, 12–15 μ in diameter, slightly attenuated and in most instances somewhat arcuate at the apices, provided with a delicate sheath; articulations 2½–3½ times shorter than the diameter, 4μ–6μ long, with delicately granulose protoplasm, near the end of the filament prominently enlarged at the joints, giving, in sectional view, a somewhat trapezoidal form to the secondary cells; apical cell pyramidal or conical, sometimes bluntly rounded, not capitate; no calyptra.

Hab.: bottom of pond. Pasadena, California. October, 1895. Collected by Prof. A. J. McClatchie.

The hormogones are almost constantly arcuate at each end and, with few exceptions in opposite directions, so that they may be said to be somewhat sigmoid in form. In the mature filaments this arcuate character is, however, not always present, at least at both ends. In the same way the degree of attenuation and the shape of the end of the filament may vary to a considerable degree. Thus the apex may be globose or bulging, truncated, giving an almost square outline to the cell, or, going to the other extreme, it may be somewhat pointed, which is more common.



The bulging character furnished by the ends of the mature cells near the extremity of the filament is constant and peculiar to the species so far as is known. One might represent such a cell by placing, base to base, two low glass beakers with flaring edges. The two flaring edges would then be the ends of the primary cell, while the line made by the bases of the beakers could be taken as the new cell-wall thrown across, separating the two secondary cells.